DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY
RESEARCH, DEVELOPMENT AND ACQUISITION
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MEMORANDUM FOR DISTRIBUTION

SUBJECT: Prototyping and Competition (P07-005)

There have been too many examples recently of unnecessary technical uncertainty and risk being carried forward to the System Development and Demonstration (SDD) Phase when the uncertainty and risk should have been addressed earlier, during Technology Development. The SDD Phase should focus on producing detailed manufacturing designs and not on technology maturation.

Accordingly, as required by the attached memo, all pending and future ACAT I programs will be planned, funded, and executed based on technology development and acquisition strategies that provide for two or more competing teams producing key system or subsystem prototypes. These prototypes will be designed to demonstrate critical program technologies in a relevant environment. In support of this approach, a competitive environment will be maintained for the duration of Technology Development and sustained thereafter where the benefits warrant the investment. Determination of which key system or subsystem prototypes will be produced should be a collaborative effort between the Program Manager and the Requirements Officer/Advocate, and approved by the Milestone Decision Authority (MDA). This policy should be extended to all appropriate programs below ACAT I.

The objectives of prototyping and competition are to reduce technical, cost, and schedule risk, increase program predictability and improve program stability.

I expect Program Managers to use their good judgment in the execution of their programs and in the formulation of technology development and acquisition strategies reflecting this policy. My point of contact for this is Ms. Rose Bartlett, DASN(ALM), (703) 693-4013.

David Architzel
Vice Admiral, U.S. Navy
Principal Deputy

Attachments:
As stated

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ACQUISITION,
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19 SEP 2007

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
COMMANDER, U.S. SPECIAL OPERATIONS COMMAND
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Prototyping and Competition

Many troubled programs share common traits – the programs were initiated with inadequate technology maturity and an elementary understanding of the critical program development path. Specifically, program decisions were based largely on paper proposals that provided inadequate knowledge of technical risk and a weak foundation for estimating development and procurement cost. The Department must rectify these situations.

Lessons of the past, and the recommendations of multiple reviews, including the Packard Commission report, emphasize the need for, and benefits of, quality prototyping. The Department needs to discover issues before the costly System Design and Development (SDD) phase. During SDD, large teams should be producing detailed manufacturing designs – not solving myriad technical issues. Government and industry teams must work together to demonstrate the key knowledge elements that can inform future development and budget decisions.

To implement this approach, the Military Services and Defense Agencies will formulate all pending and future programs with acquisition strategies and funding that provide for two or more competing teams producing prototypes through Milestone (MS) B. Competing teams producing prototypes of key system elements will reduce technical risk, validate designs, validate cost estimates, evaluate manufacturing processes, and refine requirements. In total, this approach will also reduce time to fielding.

Beyond these key merits, program strategies defined with multiple, competing prototypes provide a number of secondary benefits. First, these efforts exercise and develop government and industry management teams. Second, the prototyping efforts provide an opportunity to develop and enhance system engineering skills. Third, the programs provide a method to exercise and retain certain critical core engineering skills in the government and our industrial base. Fourth, prototype efforts can attract a new generation of young scientists and engineers to apply their technical talents to the needs of our Nation's Warfighters. Finally, these prototype efforts can inspire the imagination and creativity of a new generation of young students, encouraging them to pursue technical educations and careers.

Based on these considerations, all acquisition strategies requiring USD(AT&L) approval must be formulated to include competitive, technically mature prototyping through MS B. The Component Acquisitions Executives will review all existing programs and all programs in the initial stages of development for the potential to adopt this acquisition strategy. It is the policy of the Department of Defense that this acquisition strategy should be extended to all appropriate programs below ACAT I.

John J. Young, Jr.
Acting

cc:
Under Secretaries Of Defense
Component Acquisition Executives